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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/525,900

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Mirosław Z. Bober

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EXAMINER

DIEP, NHON THANH

ART UNIT

PAPER NUMBER

2613

8

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/525,900

Applicant(s)

BOBEP, MIROSLAW Z

Examiner

Nhon T Diep

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-12, 20, 29, 35, 38 and 39 is/are allowed.
- 6) ☒ Claim(s) 13-19, 21-28, 30-34, 36, 37 and 40 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 13-22 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments filed 2/27/2004 with respect to claims 23-30, and 32-35 have been fully considered but they are not persuasive.

With regard to the applicant's argument that even if it is known to encode image signals at different resolutions, Applicant strongly contends it is not therefore obvious to encode motion vector fields at different resolutions and that pixel values are scalar quantities and motion vectors are vector and therefore quite distinct from each other (page 14, ln. 1-9). The examiner respectfully disagrees. Since coding a sequence of digitized images at different resolutions is notoriously well known to every ordinary skilled artisan in the pertinent art and therefore, having the teachings of Ozcelik et al, and the common knowledge, one of ordinary skilled in the art would definitely think of coding a sequence of digitized images at different resolutions and performing the coding in a dense motion vector field environment since the benefit or advantage of the coding digitized signals at different resolutions is well known and well appreciated. Also, any ordinary skilled artisan would know the difference between a scalar and a vector and therefore, the process of coding a motion vector field at different resolutions would have to be different than in the scalar environment. Further more, Applicant only claims the common features of the coding a sequence of digitized images at different resolutions

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and does not claim or recite any techniques that shows the difference between the two environments and therefore, the examiner maintains his rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 13-19, 21-22, 30, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by over lu (US 5,471,252) (new rejection as applicable to amended claims).

lu discloses a method and apparatus for estimating motion vector fields by rejecting local outliers comprising the same method of processing data relating to an image in a sequence of digitized images comprising deriving a motion vector field for the image (col. 4, lines 6-10) and smoothing the motion vector field by replacing a given motion vector by a new motion vector **by averaging motion vectors comprising neighbouring motion vectors** (col. 11, ln. 64-col. 12, ln. 5), the method further comprising identifying where motion discontinuities occur in the image and omitting a motion vector or vectors from the averaging if they are separated from the given motion vector by a motion discontinuity (col. 5, line 19 – col. 6, line 4) as specified in claims 13, 15 and 22 (fig. 8); the new motion vector is derived using a prediction error (col. 2, lines 6-8 and col. 5, lines) as specified in claims 14 and 15; motion discontinuities occur in the image and omitting a motion vector or vector from the averaging if they are separated from the given motion by a motion discontinuity discontinuity (col. 5, line 19 –

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col. 6, line 4) as specified in claims 16 and 20; motion vector is derived for each pixel (col. 1, lines 15-21) as specified in claims 17 and 21; averaging takes account of the given motion vector (col. 5, line 19 – col. 6, line 4) as specified in claim 18; using a weighted average (col. 5, lines 5-10) as specified in claim 19; and a decoder for decoding motion information for a sequence of digitized images encoded according to a method claimed in claims 13 and 15 (inherently included) as specified in claims 30 and 36.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 23-28, 31-34, 37 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozcelik et al (US 5,574,663 as cited in the previous Office Action (paper #5)).

Ozcelik et al further discloses a motion vector field is a dense motion vector field (col. 2, ln. 61-64) as specified in claim 40 and inherently including a decoder to decode the encoded signal as specified in claim 37.

Allowable Subject Matter

7. Claims 1-12, 20, 29, 35, and 38-39 are allowed.

Conclusion

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8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Ueno et al (US 5,677,735) discloses a motion picture coding apparatus.

b. Lee et al (US 5,959,673) discloses a transform coding of dense motion vector fields for frame and object based video coding application.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhon T Diep whose telephone number is 703-305-4648.

The examiner can normally be reached on m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S Kelley can be reached on 703 305-4856. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-2600.

ND
17 Aug 2003



NHON DIEP
PRIMARY EXAMINER